



Doctoral course in Economics

2021 - 2022

Semester 1 : September October November December

Semester 2 : January **February** **March** April May June

Title	Big Data in Macroeconomics and Finance
Code course	LECON2703
Professor	Francesca Monti
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Agenda	3 hours on Thursday in weeks 15 to 19 of the 2 nd semester
Abstract	<p>This course will focus on methods in time series econometrics designed to handle “big data.”</p> <p>We will talk about univariate predictive regressions with many regressors, discussing various dense and sparse regularization techniques, such as principal components, ridge, lasso and others. We will discuss Bayesian inference in the context of these regressions and explore the connection between Bayesian shrinkage and regularization.</p> <p>The course will then cover some of the most popular multivariate econometric models for big data. We will talk about dynamic factor models, looking at different estimation techniques, including Bayesian. The course will also cover Bayesian VARs, detailing in particular how they can be used to deal with mixed-frequency and irregularly sampled data. We will discuss applications of these models and methods to nowcasting and forecasting in macroeconomics and finance.</p> <p>We will also touch on machine learning for macroeconomic forecasting.</p>

NOTE : if you plan to follow this course, please follow the next steps :

1. Ask the authorization of your thesis director to add this course in your doctoral program
2. Send an e-mail to solange.dujardin@uclouvain.be and geraldine.carette@uclouvain.be to confirm your registration with your Name, the Code of your Program (ECGE3FD or other) and the Code of the Course
3. Put your thesis director and the professor in CC of this e-mail
4. Specify also if you plan to pass the exam or not